ATTACHMENT 7: SCHEDULE
Hydrogeologic Characterization of the Eastern Turlock Subbasin

The Project Schedule is presented on Table 7-1 by tasks and subtasks included in the Workplan (Attachment 5) and the Project Budget (Attachment 6). The Project is assumed to commence on April 1, 2013, consistent with the guidance in the Proposal Solicitation Package (PSP). Because this Project is a hydrogeologic study, it is not subject to typical delays associated with CEQA compliance, permitting, or land access agreements. **Everything is in place to begin immediately upon execution of the agreement**.

The Project is expected to progress continuously for approximately 21 months, with the technical work ending in early January 2015 – about three months sooner than allowed by the grant process. Extra time has been inserted into this schedule to account for reduced staffing during holiday periods and/or additional time needed for certain Project subtasks such as data collection or model calibration. With these factors already considered, we can assure DWR that the Project will be completed well before the grant expiration date of April 1, 2015. Early completion of all technical work also allows for final paperwork and invoicing to be completed within the allotted time. Because the paperwork may extend some time after the technical work has been completed, the Project Management task is extended to March 31, 2015 and this date is listed as the Project end date on the first application question on the *Project Information* tab.

Project Schedule Details and Basis of Estimate

The Project schedule is realistic, based on the experience of the Applicant and an estimate from a hydrogeologic consultant with expertise in successful completion of similar projects. The schedule for each task is commensurate with the level of effort required. The schedule also provides for time efficiency with some tasks being completed concurrently.

For Task 1, a full three months is allotted for the aggressive data collection and database development, recognizing that the success of the Project is highly contingent on the success of this task. Tasks 2 and 3 are initiated after the databases are completed and documented in TM No. 1, and are conducted in parallel.

Task 4 is a continuation of previous tasks and builds on the analyses in Tasks 2 and 3. The schedule incorporates extra time for Task 4 in anticipation of reduced staffing and less availability of the PAC for review of TM 4 during the holiday season (November and December) of 2013.

Task 5 relies on completion of the regional USGS numerical model discussed in detail in the Workplan. That model has been constructed and is in the final stages of calibration; model files are estimated to be available in December 2012 (Phillips, personal communication, May 2012). According to the proposed schedule, the USGS model files are not needed by this Project until early 2014, more than one year later than the current completion estimate by USGS. The six-month task allocation incorporates all of the QA/QC measures associated with the model that are discussed in Attachment 8. The primary modeling

QA/QC measures are linked to model calibration in subtask 5.3, the most time-intensive subtask of Task 5.

Three months are allocated to Task 6 for the simulation of land use/groundwater use scenarios. This allows for checking of model results and accurate portrayal of potential future impacts.

The preparation of the Draft Project Report (Task 7) consists of combining technical memoranda from previous tasks and can be conducted in a time-efficient manner. Nonetheless, 33 working days are allocated to report preparation to include sufficient time for the PAC to provide comments on the final TM (TM 6).

Project management will occur continuously throughout the Project and is shown to extend to the grant deadline to account for final invoicing and paperwork associated with the Project. The provision of materials to the PAC (Subtask 8.3) ends after the submittal of the final report and allows for a final Project update to be provided at the January 2015 meeting of the PAC. Estimated dates of the transmittal of quarterly progress reports are shown on Table 7-1 and are assumed to be submitted within about 30 days of the end of each quarter. This allows for the incorporation of all invoices associated with the quarterly work. We will work with DWR on an alternate schedule if details of the agreement deviate from the dates provided.

Table 7-1: Project Schedule
Hydrogeologic Characterization of the Eastern Turlock Subbasin
City of Turlock

Name	Duration	Start
Notice to Proceed	1 day	Mon 4/1/13
Task 1 Compile Hydrogeologic Data and Develop Project Databases/GIS	**80 days**	**Mon 4/1/13**
1.1 Compile Physical, Geologic, and Hydrologic Data	20 days	Mon 4/1/13
1.2 Compile Hydrogeologic Data	50 days	Mon 4/1/13
1.3 Compile Land Use Data	50 days	Mon 4/1/13
1.4 Create Project Database and Project GIS	46 days	Mon 4/22/13
1.5 Apply QA/QC Procedures	5 days	Mon 6/24/13
1.6 Prepare Technical Memorandum (TM) No. 1	15 days	Mon 7/1/13
Task 2 Document Current and Historical Land Use and Groundwater Use	**28 days**	**Mon 7/22/13**
2.1 Analyze Land Use Data Sets	14 days	Mon 7/22/13
2.2 Incorporate Groundwater Use Databases	20 days	Mon 7/22/13
2.3 Prepare TM No. 2	8 days	Mon 8/19/13
Task 3 Evaluate Aquifer Systems and Groundwater Conditions	**52 days**	**Thu 8/1/13**
3.1 Evaluate Project Area Aquifers	32 days	Thu 8/1/13
3.2 Evaluate Groundwater Conditions	31 days	Mon 8/19/13
3.3 Prepare TM No. 3	10 days	Mon 9/30/13
Task 4 Update Hydrogeologic Model	**74 days**	**Tue 10/1/13**
4.1 Describe Hydrogeologic Framework	11 days	Tue 10/1/13
4.2 Update Water Balance for the Project Area	45 days	Mon 10/7/13
4.3 Prepare TM No. 4 and Conduct Workshop No. 1	**25 days**	**Mon 12/9/13**
Prepare TM No. 4	25 days	Mon 12/9/13
Conduct Workshop No. 1	1 day	Fri 1/10/14
Task 5 Expand and Revise a Subbasin-Wide Numerical Model	**119 days**	**Mon 1/13/14**
5.1 Obtain USGS Model and Verify Results	20 days	Mon 1/13/14
5.2 Expand Model and Modify Boundary Conditions	25 days	Mon 2/10/14
5.3 Calibrate the Revised Project Model	45 days	Fri 3/21/14
5.4 Prepare TM No. 5 and Conduct Workshop No. 2	**26 days**	**Thu 5/22/14**
Prepare TM No. 5	25 days	Thu 5/22/14
Workshop No. 2	1 day	Thu 6/26/14
Task 6 Evaluate Scenarios for Current and Future Land Use	**71 days**	**Fri 6/27/14**
6.1 Develop Future Land Use Scenarios for Analysis	16 days	Fri 6/27/14
6.2 Analyze Future Land Use Scenarios	35 days	Mon 7/21/14
6.3 Prepare TM No. 6	15 days	Mon 9/15/14
Task 7 Prepare Project Report	**64 days**	**Mon 10/6/14**
7.1 Prepare Draft Report	30 days	Mon 10/6/14
7.2 Present Report to PAC - Workshop No. 3	1 day	Mon 11/17/14
7.3 Prepare Final Report	33 days	Tue 11/18/14
Task 8 Manage Project	**522 days**	**Mon 4/1/13**
8.1 Manage Project Progress, Schedule, and Budget	522 days	Mon 4/1/13
8.2 Prepare Quarterly Progress Reports	**434 days**	**Wed 7/31/13**
Quarterly Report No. 1	0 days	Wed 7/31/13
Quarterly Report No. 2	0 days	Thu 10/31/13
Quarterly Report No. 3	0 days	Fri 1/31/14
Quarterly Report No. 4	0 days	Wed 4/30/14
Quarterly Report No. 5	0 days	Thu 7/31/14
Quarterly Report No. 6	0 days	Fri 10/31/14
Quarterly Report No. 7	0 days	Fri 1/30/15
Quarterly Report No. 8 (if needed)	0 days	Tue 3/31/15
8.3 Provide Project Materials to the PAC	480 days	Mon 4/1/13